



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,223	05/31/2001	Desmond T. Curran	53924USA1B.010	6855
32692	7590	02/07/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			LEWIS, AARON J	
			ART UNIT	PAPER NUMBER
			3743	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/871,223	CURRAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	AARON J. LEWIS	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004 and 11 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21-43 and 66-92 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-43 and 73-92 is/are allowed.
- 6) ☒ Claim(s) 66-71 is/are rejected.
- 7) ☒ Claim(s) 72 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, see arguments and Affidavit under 37CFR 1.131, filed 10/12/2004 and 11/11/2004, with respect to the rejection(s) of claim(s) 21-26, 29-43, 66-92 under 35 USC 102 and 35 USC 103 have been fully considered and are persuasive. Therefore, the final rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Leason ('694), Marchello ('119) and Gookin ('969).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 66, 67 are rejected under 35 U.S.C. 102(b) as being anticipated by Leason ('694).

As to claim 66, Leason discloses a method of attaching a component to a web of material comprising filtration material (11), the method comprising: providing a web of material comprising a layer of filtration material and having first and second major surfaces (e.g. opposite sides of sheet #13 of the filter web #11) and an aperture (14); b. providing a component (95 of fig.2) comprising a base portion (see flange on component 95 of fig.2) and a deformable extension member (see portion which extends from flange of component 95 of fig.2) that

Art Unit: 3743

extends from the base portion to a tip; c. inserting the tip through the aperture (fig.5); and d. deforming (see deformed extension in fig.5 which is pressed into sealing engagement with flanged grommet support #54) the extension member so as to make an effective seal between the component and the web of material.

As to claim 67, the component (95 of fig.5) of Leason is clamped in fluid-tight relationship to the filtration material.

4. Claim 71 is rejected under 35 U.S.C. 102(b) as being anticipated by Marchello ('119).

As to claim 71, Marchello discloses a method of making a respiratory mask, wherein a component is attached to a mask body, the method comprising: providing a mask body comprising a layer of filtration material (35) and having an aperture (through end portion #39) therein; providing a component (24) comprising a base portion (see flanged head of rivet #24) and a deformable extension member (see shaft of rivet #24 extending from flanged head) that extends from the base portion to a tip; inserting the tip (figs.6 and 7) through the aperture; and deforming the extension member (col.3, lines 60-62) so as to make an effective seal between the component and mask body.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3743

6. Claims 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leason ('694) in view of Gookin ('969).

The difference between Leason and claim 68 is the step of deforming the extension member by contact with a forming punch and die, whereby a deformed portion of the extension member is bent relative to a non-deformed portion of the extension member.

Gookin (page 2, col.1, lines 38-41 and col.2, lines 38-64), in a method and tool for roll clenching, teaches the steps of loading the component (10) onto a die of a cooperating punch and die system and supporting at least a portion of the component base portion by an anvil portion (30) of the die for the purpose of bending/deforming an extension member (11) against the web (21) in clamping relationship therewith. At least one of the advantages method of Gookin is its compatibility with automatic high speed inserting machines for improved speed and efficiency (page 2, col.2, line 45).

Leason discloses a method of attaching a component (95) to a filtration web by bending a flange back against a flanged grommet support and clamping the web in relationship therewith. It would have been obvious to bend the flange of Leason back against the filtration web by loading the component onto a die of a cooperating punch and die system and supporting at least a portion of the component base portion by an anvil portion of the die for the purpose of bending/deforming the flange against the web in clamping relationship therewith because it would have provided an efficient and mechanized method of attaching

Art Unit: 3743

a plurality of component to a plurality of filtration webs in a sequential manner as taught by Gookin.

As to claim 69, Gookin teaches the step of deforming the extension member back towards the component base portion is conducted as a cold forming process. That is, there is no disclosure of adding heat to the process.

As to claim 70, it is noted that neither Leason nor Gookin expressly discloses the use of heat to aid in the deforming of the extension member. The use of heat as an aid in the deformation of a substance produces an expected result of causing the substance to become more malleable. It would have been obvious to employ heat in the deformation step of Leason as modified by Gookin as an obvious matter of design choice because of the known and expected results of increased malleability by adding heat to a substance thereby enabling faster and more complete deformation of the extension member during the deforming step.

***Allowable Subject Matter***

7. Claim 72 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 21-43, 73-92 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter: the overall claimed combination of a method of attaching a component to a web of material comprising filtration material including the steps of deforming the extension member back toward the component base portion so that at least a surface of the extension member abuts against the second major

Art Unit: 3743

surface of the web material and, along with the contact of the surface of the component base portion and the first major surface of the web material, clamps the component in fluid-tight relationship to the web material, is neither anticipated nor rendered obvious by the prior art of record.

While the prior art to Marchello and Leason generally disclose the attachment of a component to a filtration material, neither Marchello nor Leason discloses the abutment of the base portion of the component against the first major surface of the web and the deforming of the extension member back towards the base portion so that at least a surface of the extension member abuts the second major surface of the filtration material. That is, in each of Marchello and Leason there is at least one element positioned between either the extension member and the filtration web or at least one element positioned between the base portion and the filtration web (e.g. disk #17 and pad #21 in Marchello and flanged grommet support #54 and edge of plate #83 in Leason). The ends of the component do not abut the filtration web as required by the claim language.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The balance of the art is cited to show a filtering respirator mask having an exhalation valve mounted directly to the filtering portion of the mask.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON J. LEWIS whose telephone number

Art Unit: 3743

is (571) 272-4795. The examiner can normally be reached on 9:30AM-6:00PM  
M-F.

If attempts to reach the examiner by telephone are unsuccessful, the  
examiner's supervisor, HENRY A. BENNETT can be reached on (571) 272-4791.  
The fax phone number for the organization where this application or proceeding  
is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from  
the Patent Application Information Retrieval (PAIR) system. Status information  
for published applications may be obtained from either Private PAIR or Public  
PAIR. Status information for unpublished applications is available through  
Private PAIR only. For more information about the PAIR system, see [http://pair-  
direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR  
system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-  
free).



AARON J. LEWIS  
Primary Examiner  
Art Unit 3743

Aaron J. Lewis  
February 04, 2005